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PDerwent Title:

Fair packet scheduler through weighted fair queuing(wfg) emulation in high-

speed integrated service network and method thereof

POriginal Title:

KR1000087A: FAIR PACKET SCHEDULER THROUGH WEIGHTED FAIR

QUEUING(WFQ) EMULATION IN HIGH-SPEED INTEGRATED SERVICE

NETWORK AND METHOD THEREOF

**INFORMATION & COMMUNICATIONS FOUND Non-**

standard company

**UNIV INFORMATION & COMMUNICATIONS** Non-standard

company

KONS; KOHNS; PARKHS;

PAccession/

2001-429981 / 200340

Update:

§ IPC Code: H04L 12/56;

Prwent Classes:

W01;

Manual Codes:

W01-A03B(Packet transmission), W01-A06G2(Stored and

forward switching)

Abstract:

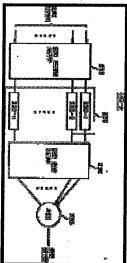
(KR1000087A) Novelty - A fair packet scheduler through weighted fair queuing (WFQ) emulation in a high-speed integrated service network and method thereof, is provided to maintain a counting complexity of a system virtual time with zero/one while securing a delay bound and a fair index in a WFQ standard. The fair packet scheduler provides a fair and optimum delay bound, when deciding packet

transmission orders based on a traffic contract with a network by connection of each

packet entering an asynchronous transfer mode(ATM) exchange or a router.

Detailed Description - An input traffic processor(210) utilizes a system virtual time maintained and managed in a node whenever a new packet arrives at the node to calculate a time stamp, and adds the time stamp to a header of arrived packets. Queue blocks(220-1/220-n) temporarily store the packets processed in the input traffic processor(210) and make the stored packets waited. A start packet processor (230) selects a packet having a smaller time stamp value among the standby head packets. A server(250) transmits the packet selected in the start packet processor (230) according to arrival orders to a link. And the start packet processor(230) updates the system virtual time before a start time of a new service, after the service

for the packets in the server(250) is ended.



Int. Cl.7 H04L 12/56

Application 10-2000-0009459 (2000.02.25)

Number/Date

Unexamined

Publication 10-2001-0000087 (2001.01.05)

Number/Date

**Publication** 

(2003.01.30)

Number/Date

Registration 10-0369562-0000 (2003.01.13)

Number/Date

Right of origianl

Application

**Origianl Application** 

Number/Date

Final disposal of an

등록결정(일반)

application

International

Application

Number/Date

International

Unexamined

**Publication** 

Number/Date

request for an 있음

examination

Date of request for an

examination/the 2000.02.25 / 13

number of claims

**Designated States** 

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Priority info (Country/Number/Date)

> 고속 통합 서비스망에서 WFQ의 에뮬레이션을 통한 공정패킷 스케쥴링 방법 및 그 공정 패킷 스 케쥴러

Title of invention

(EMULATED WEIGHTED FAIR QUEUEING ALGORITHM FORHIGH-SPEED INTEGRATED

SERVICE NETWORKS AND THESCHEDULER THEREFOR)

**Abstract** 

본 발명은 ATM 또는 인터넷 등의 고속 패킷 교환망에서의 ATM 교환기 또는 라우터 등과 같은 패 킷 노드에서 제한된 노드의 처리용량을 복수의 사용요청에 대하여 공정하게 분배하기 위한 공정 패킷 스케줄링(fair packet scheduling) 방법 및 그 스케쥴러에 관한 것이다.

본 발명은 노드로 새로이 도착한 패킷에 대한 새로운 서비스의 개시시점 이전에 갱신된 시스템 가 상 시간을 시스템 가상시간을 이용하여 타임스탬프를 계산하여 상기 도착 패킷의 헤더에 부가하 여 큐에 일시 대기시키는 입력 트래픽 처리부와, 상기 큐에 대기중인 폐킷을 갖는 연결의 선두 패 킷중 가장 적은 타임스탬프값을 갖는 패킷을 선택하는 출발 패킷 처리부와, 상기 출발 패킷 처리에 서 선택된 패킷을 연결별 도착한 순서대로 목적지 링크로 전송하는 서비스를 수행하는 서버를 포 함한다.